90. (New) A method of preparing the isolated antagonist of claim 69, comprising culturing the host cell of claim 89 so as to express said antagonist, substantially purifying said antagonist, and refolding said antagonist.--

REMARKS

Claims 1 to 52 are pending. New claims 53 to 90 have been added herein. Thus, upon entry of the new claims, claims 1 to 90 will be under examination.

Regarding the New Claims

New claims 53 and 69 are directed to isolated prokineticin receptor antagonists. New claims 53 and 69 are supported in the specification, for example, at page 11, lines 16-22, which indicates that prokineticin polypeptides having altered N-terminal sequences can antagonize the smooth muscle contractile activity of wild-type prokineticins; at page 19, lines 15-24, which indicates that prokineticin polypeptides containing at least 10 contiguous amino acids of SEQ ID NOS:3 or 6 can act as prokineticin receptor antagonists to block signaling through a prokineticin receptor; and at page 57, line 28, to page 58, line 1, which indicates that an N-terminal deletion mutant and an N-terminal insertion mutant antagonize the contractile effect of prokineticin 1. New claim 53 also is supported by claim 1 as filed; new claim 69 also is supported by claim 17 as filed.

New claims 54 and 55 depend from claim 53, and new claims 70 and 71 depend from claim 69. These new claims are directed to isolated prokineticin receptor antagonists that contain 6 or more (claims 54 and 70), or 7 or more (claims 55 and 71), amino acids N-terminal to the first conserved cysteine residue. New claims 54, 55, 70 and 71 are supported in the specification, for example, at page 11, lines 16-22, which indicates that prokineticin polypeptides having altered N-terminal sequences can antagonize the smooth muscle contractile activity of wild-type prokineticins; at page 19, lines 15-24, which indicates that prokineticin polypeptides containing at least 10 contiguous amino acids of SEQ ID NOS:3 or 6 can act as prokineticin receptor antagonists to block signaling through a prokineticin receptor; at page 57, line 28, to page 58, line 1, which indicates that an N-terminal deletion mutant and an N-terminal insertion mutant antagonize the contractile effect of prokineticin 1; and at page 58, Table 1, lines 14-15.

New claims 56 and 72 depend from claims 55 and 71, respectively, and are directed to prokineticin receptor antagonists that contains the amino acid sequence MAVITGA N-terminal to the first conserved cysteine residue. New claims 56 and 72 are supported in the specification, for example, at page 11, lines 16-22, which indicates that prokineticin polypeptides having altered N-terminal sequences can antagonize the smooth muscle contractile activity of wild-type prokineticins; at page 19, lines 15-24, which indicates that prokineticin polypeptides containing at least 10 contiguous amino acids of SEQ ID NOS:3 or 6 can act as prokineticin receptor antagonists to block signaling

through a prokineticin receptor; at page 57, line 28, to page 58, line 1, which indicates that an N-terminal deletion mutant and an N-terminal insertion mutant antagonize the contractile effect of prokineticin 1; and at page 58, Table 1, lines 14-15.

New claims 57 and 58 depend from claims 53 and 57, respectively, and are directed to prokineticin receptor antagonists that contain SEQ ID NO:18, or consist of SEQ ID NO:18, respectively. New claims 57 and 58 are supported in the specification, for example, at page 11, lines 20-22.

New claims 59 and 73 depend from claim 53 and 69, respectively, and are directed to isolated prokineticin receptor antagonists that contains 5 or fewer amino acids N-terminal to the first conserved cysteine residue. New claims 59 and 73 are supported in the specification, for example, at page at page 11, lines 16-22, which indicates that prokineticin polypeptides having altered N-terminal sequences can antagonize the smooth muscle contractile activity of wild-type prokineticins; at page 19, lines 15-24, which indicates that prokineticin polypeptides containing at least 10 contiguous amino acids of SEQ ID NOS:3 or 6 can act as prokineticin receptor antagonists to block signaling through a prokineticin receptor; at page 57, line 28, to page 58, line 1, which indicates that an N-terminal deletion mutant and an N-terminal insertion mutant antagonize the contractile effect of prokineticin 1; and at page 58, Table 1, line 10.

New claims 60 and 74 depend from claims 59 and 73, respectively, and are directed to isolated prokineticin receptor

antagonists when the first five amino acids are VITGA. New claims 60 and 74 are supported in the specification, for example, at page 11, lines 16-22, which indicates that prokineticin polypeptides having altered N-terminal sequences can antagonize the smooth muscle contractile activity of wild-type prokineticins; at page 19, lines 15-24, which indicates that prokineticin polypeptides containing at least 10 contiguous amino acids of SEQ ID NOS:3 or 6 can act as prokineticin receptor antagonists to block signaling through a prokineticin receptor; at page 57, line 28, to page 58, line 1, which indicates that an N-terminal deletion mutant and an N-terminal insertion mutant antagonize the contractile effect of prokineticin 1; and at page 58, Table 1, line 10.

New claims 61 and 62 depend from claims 53 and 61, respectively, and are directed to prokineticin receptor antagonists that contain SEQ ID NO:16, or consist of SEQ ID NO:16, respectively. Similarly, new claims 61 and 62 are supported in the specification, for example, at page 11, lines 20-22.

New claims 63 and 64 depend from claim 53 and are directed to an isolated prokineticin receptor antagonist when residues that differ from residues 7 to 77 of SEQ ID NO:3 are conservative substitutions thereof, or are the corresponding residues from SEQ ID NO:6, respectively. New claims 75 and 76 depend from claim 69 and are directed to an isolated prokineticin receptor antagonist when residues that differ from residues 7 to 77 of SEQ ID NO:6 are conservative substitutions thereof, or are

the corresponding residues from SEQ ID NO:3, respectively. New claims 63, 64, 75 and 76 are supported in the specification, for example, at page 11, lines 16-22, which indicates that prokineticin polypeptides having altered N-terminal sequences can antagonize the smooth muscle contractile activity of wild-type prokineticins; at page 19, lines 15-24, which indicates that prokineticin polypeptides containing at least 10 contiguous amino acids of SEQ ID NOS:3 or 6 can act as prokineticin receptor antagonists to block signaling through a prokineticin receptor; at page 57, line 28, to page 58, line 1, which indicates that an N-terminal deletion mutant and an N-terminal insertion mutant antagonize the contractile effect of prokineticin 1. New claims 63 and 64 also are supported by claims 2 and 3 as filed. New claims 75 and 76 also are supported by claims 18 and 19 as filed.

New claims 65 and 66 depend from claim 53, and are directed to an isolated prokineticin receptor antagonist that contains amino acids 7 to 77 of SEQ ID NO:3 or amino acids 7 to 77 of SEQ ID NO:13. New claims 65 and 66 are supported in the specification, for example, at page 11, lines 16-22, which indicates that prokineticin polypeptides having altered N-terminal sequences can antagonize the smooth muscle contractile activity of wild-type prokineticins; at page 19, lines 15-24, which indicates that prokineticin polypeptides containing at least 10 contiguous amino acids of SEQ ID NOS:3 or 6 can act as prokineticin receptor antagonists to block signaling through a prokineticin receptor; at page 57, line 28, to page 58, line 1, which indicates that an N-terminal deletion mutant and an N-

terminal insertion mutant antagonize the contractile effect of prokineticin 1; and in claims 5 and 4 as filed, respectively.

New claims 77 and 78 depend from claim 69, and are directed to an isolated prokineticin receptor antagonist that contains amino acids 7 to 77 of SEQ ID NO:6 or amino acids 7 to 77 of SEQ ID NO:14. New claims 77 and 78 are supported in the specification, for example, at page 11, lines 16-22, which indicates that prokineticin polypeptides having altered N-terminal sequences can antagonize the smooth muscle contractile activity of wild-type prokineticins; at page 19, lines 15-24, which indicates that prokineticin polypeptides containing at least 10 contiguous amino acids of SEQ ID NOS:3 or 6 can act as prokineticin receptor antagonists to block signaling through a prokineticin receptor; at page 57, line 28, to page 58, line 1, which indicates that an N-terminal deletion mutant and an N-terminal insertion mutant antagonize the contractile effect of prokineticin 1; and in claims 21 and 20 as filed, respectively.

New claims 67 and 68 depend from claim 53, and new claims 79 and 80 depend from claim 69. These new claims are directed to isolated prokineticin receptor antagonists that contain a tag (claims 67 and 79) or that are detectably labeled (claims 68 and 80). New claims 67 and 79 are supported in the specification, for example, at page 21, lines 3-7, which indicates that an isolated prokineticin peptide can be fused to a tag. New claims 68 and 80 are supported in the specification,

for example, at page 16, lines 8-14, which indicates that a prokineticin polypeptide can be labeled with a detectable moiety.

New claim 81 depends from claim 52, and new claim 82 depends from claim 69. New claims 81 and 82 are directed to pharmaceutical compositions that contain an isolated antagonist and a pharmaceutically acceptable carrier. These claims are supported in the specification, for example, at page 42, line 27 to page 43, line 10, which indicates that a prokineticin polypeptide can be a therapeutic compound, and page 44, lines 5-8, which indicates that a therapeutic compound can be formulated in a pharmaceutical composition containing the compound and a pharmaceutically acceptable carrier.

New claims 83 and 87, which depend from claims 53 and 69, respectively, are directed to nucleic acid molecules encoding prokineticin receptor antagonists. New claims 83 and 87 are supported in the specification, for example, at page 10, lines 9-15, which indicates that modifications of prokineticin polypeptides SEQ ID NOS:3 and 6 can be made by insertions, deletions or substitutions of nucleotides in a nucleic acid molecule encoding SEQ ID NOS:3 and 6.

New claims 84 and 88, which depend from claims 83 and 87, respectively, are directed to expression vectors that contain a nucleic acid molecule linked to a promoter of gene expression. New claims 84 and 88 are supported in the specification, for example, at page 26, lines 3, to page 27, lines 9.

New claims 85 and 89, which depend from claims 84 and 88, respectively, and are directed to host cells that contain an expression vector. New claims 85 and 89 are supported in the specification, for example, at page 27, lines 10-22.

New claims 86 and 90 are directed to methods of preparing isolated antagonists by culturing a host cell so as to express the antagonist, substantially purifying the antagonist, and refolding the antagonist. New claims 86 and 90 are supported in the specification, for example, at page 27, line 23, to page 28, line 2; page 53, line 14, to page 54, line 11; and in claim 15 as filed.

Amendment to the Sequence Listing

Substitute sheets of an amended Sequence Listing together with an amended electronic form of the Sequence Listing have been submitted in a concurrently filed Communication. A copy of the substitute sheets of the amended Sequence Listing are provided herewith as Exhibit A for convenience.

The substitute sheets of the Sequence Listing reference by SEQ ID NO three amino acid sequences that were disclosed in the specification as originally filed, but not referenced in the originally filed Sequence Listing. Newly added SEQ ID NO:20 corresponds to amino acid sequence MAVITGA, which is disclosed in the specification on page 58, Table 1, line 14. Newly added SEQ ID NO:21 corresponds to amino acid sequence AVITGA, which is disclosed in the specification on page 58, Table 1, line 6.

Newly added SEQ ID NO:22 corresponds to amino acid sequence VITGA, which is disclosed in the specification on page 58, Table 1, line 10. No new matter is introduced by the substitute sheets. Accordingly, entry of the amended sequence listing is respectfully requested.

CONCLUSION

In light of the foregoing amendments and remarks, Applicants respectfully request that claims 1 to 90 be examined. The Examiner is invited to call the undersigned agent or Cathryn Campbell if there are any questions relating to this application.

Respectfully submitted,

December 5, 2002
Date

Pamela M. Guy
Registration No. 51,228
Telephone No. (858) 535-9001
Facsimile No. (858) 535-8949

CAMPBELL & FLORES LLP
4370 La Jolla Village Drive
7th Floor
San Diego, California 92122
USPTO CUSTOMER NO. 23601

SEQUENCE LISTING

<110> Zhou, Qun-Yong
Ehlert, Frederick

<120> Prokineticin Polypeptides, Related Compositions and Methods

<130> P-UC 5016

<140> US 10/016,481
<141> 2001-11-01

<150> 60/245,882
<151> 2000-11-03

<160> 22

<170> FastSEQ for Windows Version 4.0

<210> 1
<211> 1377
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (55)...(369)

<400> 1

```
ggggaagcga gaggcatcta agcaggcagt gttttgcctt caccccaagt gacc atg   57
                                                          Met
                                                           1

aga ggt gcc acg cga gtc tca atc atg ctc ctc cta gta act gtg tct   105
Arg Gly Ala Thr Arg Val Ser Ile Met Leu Leu Leu Val Thr Val Ser
            5                  10                  15

gac tgt gct gtg atc aca ggg gcc tgt gag cgg gat gtc cag tgt ggg   153
Asp Cys Ala Val Ile Thr Gly Ala Cys Glu Arg Asp Val Gln Cys Gly
        20                  25                  30

gca ggc acc tgc tgt gcc atc agc ctg tgg ctt cga ggg ctg cgg atg   201
Ala Gly Thr Cys Cys Ala Ile Ser Leu Trp Leu Arg Gly Leu Arg Met
    35                  40                  45

tgc acc ccg ctg ggg cgg gaa ggc gag gag tgc cac ccc ggc agc cac   249
Cys Thr Pro Leu Gly Arg Glu Gly Glu Glu Cys His Pro Gly Ser His
50                  55                  60                  65

aag gtc ccc ttc ttc agg aaa cgc aag cac cac acc tgt cct tgc ttg   297
Lys Val Pro Phe Phe Arg Lys Arg Lys His His Thr Cys Pro Cys Leu
```

EXHIBIT A

```
                70                  75                  80

ccc aac ctg ctg tgc tcc agg ttc ccg gac ggc agg tac cgc tgc tcc   345
Pro Asn Leu Leu Cys Ser Arg Phe Pro Asp Gly Arg Tyr Arg Cys Ser
             85                  90                  95

atg gac ttg aag aac atc aat ttt taggcgcttg cctggtctca ggatacccac  399
Met Asp Leu Lys Asn Ile Asn Phe
        100                 105

catccttttc tgagcacagc ctggattttt atttctgcca tgaaacccag ctcccatgac 459
tctcccagtc cctacactga ctaccctgat ctctcttgtc tagtacgcac atatgcacac 519
aggcagacat acctcccatc atgacatggt ccccaggctg gcctgaggat gtcacagctt 579
gaggctgtgg tgtgaaaggt ggccagcctg gttctcttcc ctgctcaggc tgccagagag 639
gtggtaaatg gcagaaagga cattcccccc ccccctcccca ggtgacctgc tctctttcct 699
gggccctgcc cctctcccca catgtatccc tcggtctgaa ttagacattc ctgggcacag 759
gctcttgggt gcattgctca gagtcccagg tcctggcctg accctcaggc ccttcacgtg 819
aggtctgtga ggaccaattt gtgggtagtt catcttccct cgattggtta actccttagt 879
ttcagaccac agactcaaga ttggctcttc ccagagggca gcagacagtc accccaaggc 939
aggtgtaggg agcccaggga ggccaatcag ccccctgaag actctggtcc cagtcagcct 999
gtggcttgtg gcctgtgacc tgtgaccttc tgccagaatt gtcatgcctc tgaggccccc 1059
tcttaccaca ctttaccagt taaccactga agcccccaat tcccacagct tttccattaa 1119
aatgcaaatg gtggtggttc aatctaatct gatattgaca tattagaagg caattagggt 1179
gtttccttaa acaactcctt tccaaggatc agccctgaga gcaggttggt gactttgagg 1239
agggcagtcc tctgtccaga ttggggtggg agcaagggac agggagcagg gcaggggctg 1299
aaaggggcac tgattcagac cagggaggca actacacacc aacctgctgg ctttagaata 1359
aaagcaccaa ctgaactg                                              1377
```

<210> 2
<211> 105
<212> PRT
<213> Homo sapiens

<400> 2

```
Met Arg Gly Ala Thr Arg Val Ser Ile Met Leu Leu Leu Val Thr Val
 1               5                  10                  15
Ser Asp Cys Ala Val Ile Thr Gly Ala Cys Glu Arg Asp Val Gln Cys
            20                  25                  30
Gly Ala Gly Thr Cys Cys Ala Ile Ser Leu Trp Leu Arg Gly Leu Arg
        35                  40                  45
Met Cys Thr Pro Leu Gly Arg Glu Gly Glu Glu Cys His Pro Gly Ser
    50                  55                  60
His Lys Val Pro Phe Phe Arg Lys Arg Lys His His Thr Cys Pro Cys
65                  70                  75                  80
Leu Pro Asn Leu Leu Cys Ser Arg Phe Pro Asp Gly Arg Tyr Arg Cys
                85                  90                  95
Ser Met Asp Leu Lys Asn Ile Asn Phe
            100                 105
```

<210> 3
<211> 86
<212> PRT

<213> Homo sapiens

<400> 3

```
Ala Val Ile Thr Gly Ala Cys Glu Arg Asp Val Gln Cys Gly Ala Gly
 1               5                  10                  15
Thr Cys Cys Ala Ile Ser Leu Trp Leu Arg Gly Leu Arg Met Cys Thr
            20                  25                  30
Pro Leu Gly Arg Glu Gly Glu Glu Cys His Pro Gly Ser His Lys Val
        35                  40                  45
Pro Phe Phe Arg Lys Arg Lys His His Thr Cys Pro Cys Leu Pro Asn
    50                  55                  60
Leu Leu Cys Ser Arg Phe Pro Asp Gly Arg Tyr Arg Cys Ser Met Asp
65                  70                  75                  80
Leu Lys Asn Ile Asn Phe
                85
```

<210> 4
<211> 1406
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (10)...(333)

<400> 4

```
gagggcgcc atg agg agc ctg tgc tgc gcc cca ctc ctg ctc ctc ttg ctg 51
          Met Arg Ser Leu Cys Cys Ala Pro Leu Leu Leu Leu Leu Leu
           1               5                  10

ctg ccg ccg ctg ctg ctc acg ccc cgc gct ggg gac gcc gcc gtg atc   99
Leu Pro Pro Leu Leu Leu Thr Pro Arg Ala Gly Asp Ala Ala Val Ile
 15                  20                  25                  30

acc ggg gct tgt gac aag gac tcc caa tgt ggt gga ggc atg tgc tgt   147
Thr Gly Ala Cys Asp Lys Asp Ser Gln Cys Gly Gly Gly Met Cys Cys
                35                  40                  45

gct gtc agt atc tgg gtc aag agc ata agg att tgc aca cct atg ggc   195
Ala Val Ser Ile Trp Val Lys Ser Ile Arg Ile Cys Thr Pro Met Gly
            50                  55                  60

aaa ctg gga gac agc tgc cat cca ctg act cgt aaa gtt cca ttt ttt   243
Lys Leu Gly Asp Ser Cys His Pro Leu Thr Arg Lys Val Pro Phe Phe
        65                  70                  75

ggg cgg agg atg cat cac act tgc cca tgt ctg cca ggc ttg gcc tgt   291
Gly Arg Arg Met His His Thr Cys Pro Cys Leu Pro Gly Leu Ala Cys
     80                  85                  90

tta cgg act tca ttt aac cga ttt att tgt tta gcc caa aag           333
Leu Arg Thr Ser Phe Asn Arg Phe Ile Cys Leu Ala Gln Lys
```

95 100 105

taatcgctct ggagtagaaa ccaaatgtga atagccacat cttacctgta aagtcttact 393
tgtgattgtg ccaaacaaaa aatgtgccag aaagaaatgc tcttgcttcc tcaactttcc 453
aagtaacatt tttatctttg atttgtaaat gatttttttt ttttttttta tcgaaagaga 513
attttacttt tggatagaaa tatgaagtgt aaggcattat ggaactggtt cttatttccc 573
tgtttgtgtt ttggtttgat ttggcttttt tcttaaatgt caaaaacgta cccattttca 633
caaaaatgag gaaaataaga atttgatatt ttgttagaaa aacttttttt ttttttctc 693
accaccccaa gccccatttg tgccctgccg cacaaataca cctacagctt ttggtccctt 753
gcctcttcca cctcaaagaa tttcaaggct cttaccttac tttatttttg tccatttctc 813
ttcccctcctc ttgcatttta aagtggaggg tttgtctctt tgagtttgat ggcagaatca 873
ctgatgggaa tccagctttt tgctggcatt taaatagtga aaagagtgta tatgtgaact 933
tgacactcca aactcctgtc atggcacgga agctaggagt gctgctggac ccttcctaaa 993
cctgtcactc aagaggactt cagctctgct gttgggctgg tgtgtggaca gaaggaatgg 1053
aaagccaaat taatttagtc cagatttcta ggtttgggtt tttctaaaaa taaaagatta 1113
catttacttc ttttactttt tataaagttt ttttttcctta gtctcctact tagagatatt 1173
ctagaaaatg tcacttgaag aggaagtatt tattttaatc tggcacaaca ctaattacca 1233
tttttaaagc ggtattaagt tgtaatttaa accttgtttg taactgaaag gtcgattgta 1293
atggattgcc gtttgtacct gtatcagtat tgctgtgtaa aaattctgta tcagaataat 1353
aacagtactg tatatcattt gatttatttt aatattatat ccttattttt gtc 1406

<210> 5
<211> 108
<212> PRT
<213> Homo sapiens

<400> 5
Met Arg Ser Leu Cys Cys Ala Pro Leu Leu Leu Leu Leu Leu Leu Pro
1 5 10 15
Pro Leu Leu Leu Thr Pro Arg Ala Gly Asp Ala Ala Val Ile Thr Gly
20 25 30
Ala Cys Asp Lys Asp Ser Gln Cys Gly Gly Gly Met Cys Cys Ala Val
35 40 45
Ser Ile Trp Val Lys Ser Ile Arg Ile Cys Thr Pro Met Gly Lys Leu
50 55 60
Gly Asp Ser Cys His Pro Leu Thr Arg Lys Val Pro Phe Phe Gly Arg
65 70 75 80
Arg Met His His Thr Cys Pro Cys Leu Pro Gly Leu Ala Cys Leu Arg
85 90 95
Thr Ser Phe Asn Arg Phe Ile Cys Leu Ala Gln Lys
100 105

<210> 6
<211> 81
<212> PRT
<213> Homo sapiens

<400> 6
Ala Val Ile Thr Gly Ala Cys Asp Lys Asp Ser Gln Cys Gly Gly Gly
1 5 10 15
Met Cys Cys Ala Val Ser Ile Trp Val Lys Ser Ile Arg Ile Cys Thr
20 25 30

Pro Met Gly Lys Leu Gly Asp Ser Cys His Pro Leu Thr Arg Lys Val
35 40 45
Pro Phe Phe Gly Arg Arg Met His His Thr Cys Pro Cys Leu Pro Gly
50 55 60
Leu Ala Cys Leu Arg Thr Ser Phe Asn Arg Phe Ile Cys Leu Ala Gln
65 70 75 80
Lys

<210> 7
<211> 21
<212> PRT
<213> Homo sapiens

<400> 7
Asn Asn Phe Gly Asn Gly Arg Gln Glu Arg Arg Lys Arg Lys Arg Ser
1 5 10 15
Lys Arg Lys Lys Glu
20

<210> 8
<211> 21
<212> PRT
<213> Homo sapiens

<400> 8
Ser His Val Ala Asn Gly Arg Gln Glu Arg Arg Arg Ala Lys Arg Arg
1 5 10 15
Lys Arg Lys Lys Glu
20

<210> 9
<211> 19
<212> PRT
<213> Homo sapiens

<400> 9
Met Arg Gly Ala Thr Arg Val Ser Ile Met Leu Leu Leu Val Thr Val
1 5 10 15
Ser Asp Cys

<210> 10
<211> 26
<212> PRT
<213> Homo sapiens

<400> 10
Met Arg Ser Leu Cys Cys Ala Pro Leu Leu Leu Leu Leu Leu Leu Pro

```
 1               5                   10                  15
Leu Leu Leu Thr Pro Pro Ala Gly Asp Ala
            20                  25
```

<210> 11
<211> 96
<212> PRT
<213> Bombina variegata

<400> 11

```
Met Lys Cys Phe Ala Gln Ile Val Val Leu Leu Leu Val Ile Ala Phe
 1               5                   10                  15
Ser His Gly Ala Val Ile Thr Gly Ala Cys Asp Lys Asp Val Gln Cys
            20                  25                  30
Gly Ser Gly Thr Cys Cys Ala Ala Ser Ala Trp Ser Arg Asn Ile Arg
        35                  40                  45
Phe Cys Ile Pro Leu Gly Asn Ser Gly Glu Asp Cys His Pro Ala Ser
    50                  55                  60
His Lys Val Pro Tyr Asp Gly Lys Arg Leu Ser Ser Leu Cys Pro Cys
65                  70                  75                  80
Lys Ser Gly Leu Thr Cys Ser Lys Ser Gly Glu Lys Phe Lys Cys Ser
                85                  90                  95
```

<210> 12
<211> 81
<212> PRT
<213> Dendroaspis polylepis polylepis

<400> 12

```
Ala Val Ile Thr Gly Ala Cys Glu Arg Asp Leu Gln Cys Gly Lys Gly
 1               5                   10                  15
Thr Cys Cys Ala Val Ser Leu Trp Ile Lys Ser Val Arg Val Cys Thr
            20                  25                  30
Pro Val Gly Thr Ser Gly Glu Asp Cys His Pro Ala Ser His Lys Ile
        35                  40                  45
Pro Phe Ser Gly Gln Arg Lys Met His His Thr Cys Pro Cys Ala Pro
    50                  55                  60
Asn Leu Ala Cys Val Gln Thr Ser Pro Lys Lys Phe Lys Cys Leu Ser
65                  70                  75                  80
Lys
```

<210> 13
<211> 81
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 13
Ala Val Ile Thr Gly Ala Cys Glu Arg Asp Val Gln Cys Gly Ala Gly
1 5 10 15
Thr Cys Cys Ala Ile Ser Leu Trp Leu Arg Gly Leu Arg Met Cys Thr
20 25 30
Pro Leu Gly Arg Glu Gly Glu Glu Cys His Pro Gly Ser His Lys Val
35 40 45
Pro Phe Phe Gly Arg Arg Met His His Thr Cys Pro Cys Leu Pro Gly
50 55 60
Leu Ala Cys Leu Arg Thr Ser Phe Asn Arg Phe Ile Cys Leu Ala Gln
65 70 75 80
Lys

<210> 14
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 14
Ala Val Ile Thr Gly Ala Cys Asp Lys Asp Ser Gln Cys Gly Gly Gly
1 5 10 15
Met Cys Cys Ala Val Ser Ile Trp Val Lys Ser Ile Arg Ile Cys Thr
20 25 30
Pro Met Gly Lys Leu Gly Asp Ser Cys His Pro Leu Thr Arg Lys Val
35 40 45
Pro Phe Phe Arg Lys Arg Lys His His Thr Cys Pro Cys Leu Pro Asn
50 55 60
Leu Leu Cys Ser Arg Phe Pro Asp Gly Arg Tyr Arg Cys Ser Met Asp
65 70 75 80
Leu Lys Asn Ile Asn Phe
85

<210> 15
<211> 89
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 15
Gly Ile Leu Ala Val Ile Thr Gly Ala Cys Glu Arg Asp Val Gln Cys
1 5 10 15
Gly Ala Gly Thr Cys Cys Ala Ile Ser Leu Trp Leu Arg Gly Leu Arg
20 25 30
Met Cys Thr Pro Leu Gly Arg Glu Gly Glu Glu Cys His Pro Gly Ser
35 40 45

```
His Lys Val Pro Phe Phe Arg Lys Arg Lys His His Thr Cys Pro Cys
    50                  55                  60
Leu Pro Asn Leu Leu Cys Ser Arg Phe Pro Asp Gly Arg Tyr Arg Cys
65                  70                  75                  80
Ser Met Asp Leu Lys Asn Ile Asn Phe
                85
```

<210> 16
<211> 85
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 16

```
Val Ile Thr Gly Ala Cys Glu Arg Asp Val Gln Cys Gly Ala Gly Thr
 1               5                  10                  15
Cys Cys Ala Ile Ser Leu Trp Leu Arg Gly Leu Arg Met Cys Thr Pro
            20                  25                  30
Leu Gly Arg Glu Gly Glu Glu Cys His Pro Gly Ser His Lys Val Pro
        35                  40                  45
Phe Phe Arg Lys Arg Lys His His Thr Cys Pro Cys Leu Pro Asn Leu
    50                  55                  60
Leu Cys Ser Arg Phe Pro Asp Gly Arg Tyr Arg Cys Ser Met Asp Leu
65                  70                  75                  80
Lys Asn Ile Asn Phe
                85
```

<210> 17
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 17

```
Ala Ala Ala Ala Ala Ala Cys Glu Arg Asp Val Gln Cys Gly Ala Gly
 1               5                  10                  15
Thr Cys Cys Ala Ile Ser Leu Trp Leu Arg Gly Leu Arg Met Cys Thr
            20                  25                  30
Pro Leu Gly Arg Glu Gly Glu Glu Cys His Pro Gly Ser His Lys Val
        35                  40                  45
Pro Phe Phe Arg Lys Arg Lys His His Thr Cys Pro Cys Leu Pro Asn
    50                  55                  60
Leu Leu Cys Ser Arg Phe Pro Asp Gly Arg Tyr Arg Cys Ser Met Asp
65                  70                  75                  80
Leu Lys Asn Ile Asn Phe
                85
```

<210> 18
<211> 87
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 18
Met Ala Val Ile Thr Gly Ala Cys Glu Arg Asp Val Gln Cys Gly Ala
1 5 10 15
Gly Thr Cys Cys Ala Ile Ser Leu Trp Leu Arg Gly Leu Arg Met Cys
20 25 30
Thr Pro Leu Gly Arg Glu Gly Glu Glu Cys His Pro Gly Ser His Lys
35 40 45
Val Pro Phe Phe Arg Lys Arg Lys His His Thr Cys Pro Cys Leu Pro
50 55 60
Asn Leu Leu Cys Ser Arg Phe Pro Asp Gly Arg Tyr Arg Cys Ser Met
65 70 75 80
Asp Leu Lys Asn Ile Asn Phe
85

<210> 19
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 19
Ala Val Ile Thr Gly Ala Cys Glu Arg Asp Val Gln Cys Gly
1 5 10

<210> 20
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic peptide

<400> 20
Met Ala Val Ile Thr Gly Ala
1 5

<210> 21
<211> 6
<212> PRT

<213> Artificial Sequence

<220>
<223> synthetic peptide

<400> 21
Ala Val Ile Thr Gly Ala
1 5

<210> 22
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic peptide

<400> 22
Val Ile Thr Gly Ala
1 5

AMENDMENT TRANSMITTAL LETTER			DOCKET NUMBER: P-UC 5016
SERIAL NO: 10/016,481	FILING DATE: November 1, 2001	EXAMINER: Unassigned	GROUP ART UNIT: 1645
INVENTION: PROKINETICIN POLYPEPTIDES, RELATED COMPOSITIONS AND METHODS			

TO COMMISSIONER FOR PATENTS

CERTIFICATE OF MAILING BY "EXPRESS MAIL"

"EXPRESS MAIL" MAILING LABEL NUMBER: EL 857044663 US

DATE OF DEPOSIT: December 5, 2002

I HEREBY CERTIFY THAT THIS PAPER OR FEE IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE "EXPRESS MAIL POST OFFICE TO ADDRESSEE" SERVICE UNDER 37 C.F.R. 1.10 ON THE DATE INDICATED ABOVE, AND IS ADDRESSED TO: COMMISSIONER FOR PATENTS WASHINGTON, D.C. 20231.

Lisa Oliver
(TYPED OR PRINTED NAME OF PERSON MAILING PAPER OR FEE)

Lisa Oliver
(SIGNATURE OF PERSON MAILING PAPER OR FEE)

Transmitted herewith is A Preliminary Amendment in the above-identified application, together with attached Exhibit A.

X Small Entity status of this application has been established under 37 CFR 1.27.

___ Petition for Extension of Time is enclosed (in duplicate).

___ Terminal Disclaimer with fee under 37 C.F.R. 1.20(d) is enclosed.

___ No additional claims fee is required.

X An additional claims fee is required and has been calculated as shown below:

CLAIMS AS AMENDED

	NUMBER AFTER AMEND-MENT		HIGHEST NUMBER PREVIOUSLY PAID FOR		NUMBER OF EXTRA CLAIMS PRESENTED		RATE			FEE	
							SMALL ENTITY	OTHER ENTITY		SMALL ENTITY	OTHER ENTITY
TOTAL CLAIMS	94	-	52	-	42	x	$9	$18	=	$378	$
INDEPEN-DENT CLAIMS	9	-	7	-	2	x	$42	$84	=	$84	$
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM			X YES		NO		$140	$280	=	$140	$
							TOTAL ADDITIONAL FEE			$602	$

* If the "HIGHEST NUMBER PREVIOUSLY PAID FOR" is less than 20, write "20" in this space.

** If the "HIGHEST NUMBER PREVIOUSLY PAID FOR" is less than 3, write "3" in this space.

*** If the difference between the "NUMBER AFTER AMENDMENT" and the "HIGHEST NUMBER PREVIOUSLY PAID FOR" is less than 0, write "0" in the space.

___ Please charge my Deposit Account No. 03-0370 the amount of $_____. A duplicate copy of this sheet is enclosed.

EXHIBIT B

_X_ A check in the amount of $602.00 is enclosed, to cover the additional claims fee.

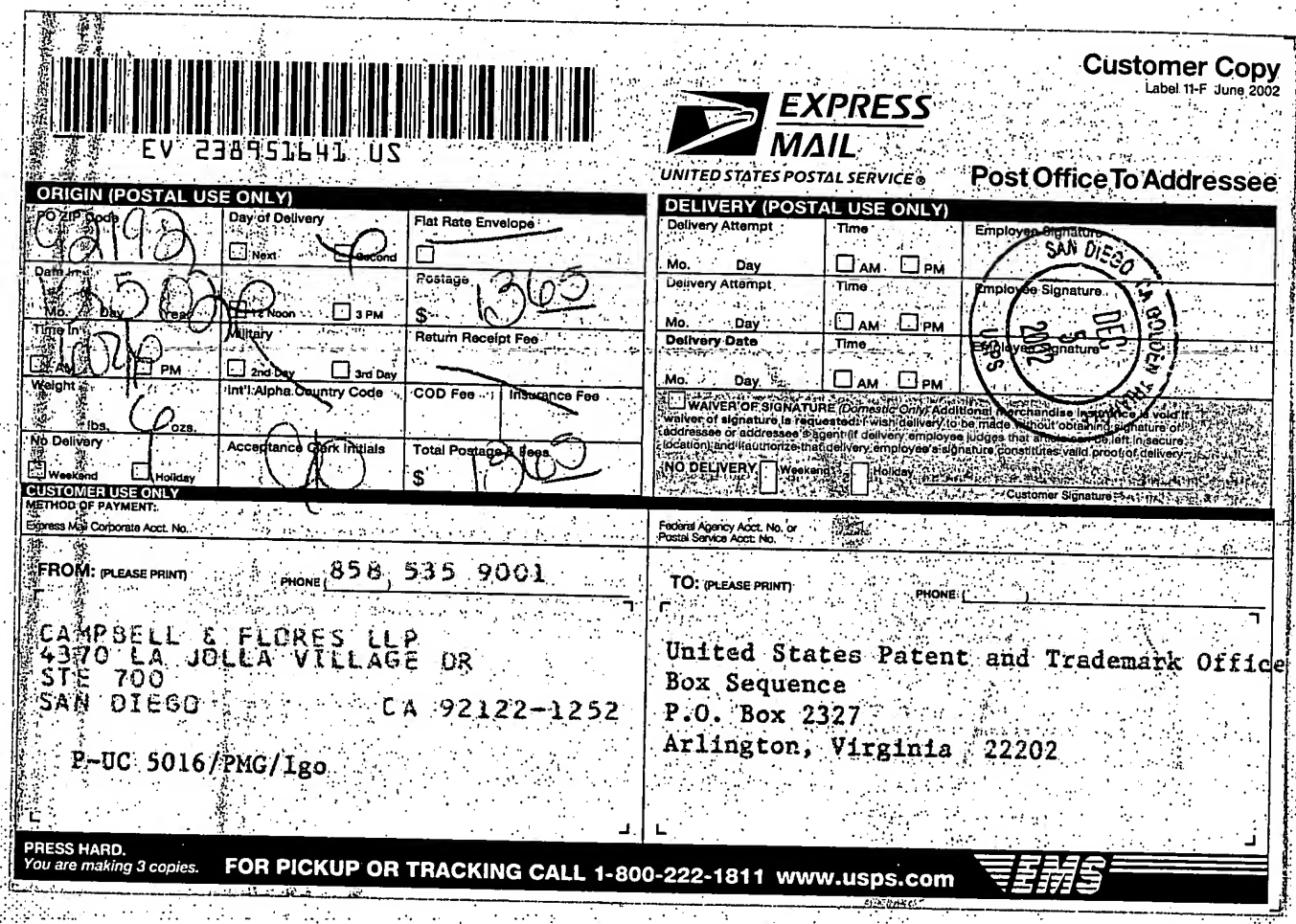
_X_ The Commissioner is hereby authorized to charge payment of any fees associated with this communication or credit any overpayment to Deposit Account No. 03-0370. A duplicate copy of this sheet is enclosed.

_X_ The Commissioner is hereby authorized to charge to Deposit Account No. 03-0370 any fees under 37 CFR 1.17 which may be required under 37 CFR 1.136(a)(3) for an extension of time in any concurrent or future reply requiring a petition for extension of time. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

Pamela M Guy

Pamela M. Guy
Registration No. 51,228
CAMPBELL & FLORES LLP
4370 La Jolla Village Drive
7th Floor
San Diego, California 92122
858-535-9001
USPTO CUSTOMER NO. 23601



EV 238951641 US

EXPRESS MAIL
UNITED STATES POSTAL SERVICE®

Customer Copy
Label 11-F June 2002

Post Office To Addressee

ORIGIN (POSTAL USE ONLY)

PO ZIP Code: 92122 | Day of Delivery: ☐ Next ☐ Second | Flat Rate Envelope: ☐

Date In: Mo. 12 Day 5 Year 02 | ☐ 12 Noon ☐ 3 PM | Postage: $ 13.65

Time In: ☐ AM ☐ PM | Military: ☐ 2nd Day ☐ 3rd Day | Return Receipt Fee:

Weight: lbs. 6 ozs. | Int'l Alpha Country Code: | COD Fee: | Insurance Fee:

No Delivery: ☐ Weekend ☐ Holiday | Acceptance Clerk Initials: | Total Postage & Fees: $ 13.65

DELIVERY (POSTAL USE ONLY)

Delivery Attempt: Mo. Day | Time: ☐ AM ☐ PM | Employee Signature:

Delivery Attempt: Mo. Day | Time: ☐ AM ☐ PM | Employee Signature:

Delivery Date: Mo. Day | Time: ☐ AM ☐ PM | Employee Signature:

SAN DIEGO CA 921 DEC 5 2002 USPS

☐ WAIVER OF SIGNATURE (Domestic Only) Additional merchandise insurance is void if waiver of signature is requested. I wish delivery to be made without obtaining signature of addressee or addressee's agent (if delivery employee judges that article can be left in secure location) and I authorize that delivery employee's signature constitutes valid proof of delivery.

NO DELIVERY: ☐ Weekend ☐ Holiday | Customer Signature:

CUSTOMER USE ONLY

METHOD OF PAYMENT:

Express Mail Corporate Acct. No.:

Federal Agency Acct. No. or Postal Service Acct. No.:

FROM: (PLEASE PRINT) PHONE (858) 535 9001

CAMPBELL & FLORES LLP
4370 LA JOLLA VILLAGE DR
STE 700
SAN DIEGO CA 92122-1252

P-UC 5016/PMG/Igo

TO: (PLEASE PRINT) PHONE ( )

United States Patent and Trademark Office
Box Sequence
P.O. Box 2327
Arlington, Virginia 22202

PRESS HARD.
You are making 3 copies.

FOR PICKUP OR TRACKING CALL 1-800-222-1811 www.usps.com

EMS

EXHIBIT C

Please acknowledge receipt of the accompanying:

☐ Response_____

☒ Preliminary Amendment, with attached Exhibit A

☒ Transmittal form PTO-1083 (in duplicate)

☐ Petition for ___ month Extension of Time (in duplicate)

Applicant's Name Zhou and Ehlert

Serial Number 10/016,481 Filing Date November 1, 2001

Examiner's Name Unassigned Group Art Unit 1645

Title PROKINETICIN POLYPEPTIDES, RELATED COMPOSITIONS AND METHODS

☒ Fee $602.00 Enclosed ☒Check No.: 029821

☒ Certificate of Express Mailing No.: EL 857044663 US

Our Docket No.: P-UC 5016 Date Mailed: December 5, 2002

Date Due: ----------

Client THE REGENTS OF THE UNIVERSITY OF CALIFORNIA

Attorney/Secretary PMG/lgo

Place your receiving date stamp hereon and return this card.

FORM UA Amend/Resp

EXHIBIT D

UTILITY PATENT APPLICATION TRANSMITTAL (only for new and continuation-in-part nonprovisional applications under 37 CFR 1.53(b))	Docket No.: P-UC 5016

Address to: COMMISSIONER FOR PATENTS
Box Patent Application
Washington, D.C. 20231

CERTIFICATE OF MAILING BY "EXPRESS MAIL"

"EXPRESS MAIL" MAILING LABEL NUMBER: EL 857 041 809 US

DATE OF DEPOSIT: November 1, 2001

I HEREBY CERTIFY THAT THIS PAPER OR FEE IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE "EXPRESS MAIL POST OFFICE TO ADDRESSEE" SERVICE UNDER 37 C.F.R. 1.10 ON THE DATE INDICATED ABOVE, AND IS ADDRESSED TO: COMMISSIONER FOR PATENTS WASHINGTON, D.C. 20231.

Elizabeth S. Conaughton
(TYPED OR PRINTED NAME OR PERSON MAILING PAPER OR FEE)

EsCn
(SIGNATURE OF PERSON MAILING PAPER OR FEE)

This is a request for filing a
__X__ new utility patent application under 37 CFR 1.53(b)(1).

____ continuation-in-part under CFR 1.53(b)(2) of prior application serial no. _____, filed _____ (**list entire parentage**).

Title: PROKINETICIN POLYPEPTIDES, RELATED COMPOSITIONS AND METHODS

Inventor(s)(full name of each inventor): Qun-Yong Zhou and Frederick J. Ehlert

Enclosed are:

X		Return receipt postcard
___		Patent Application Bibliographic Data Sheet
X	1	Page application cover sheet
X	74	Pages of specification (includes claims and abstract)
X	9	Sheets of drawing(s)
___	____	Pages of an executed Declaration for Patent Application
___		An executed Power of Attorney for Patent Application by Assignee
X		Paper copy of sequence listing, pages 1 through 9.
X		Sequence listing in computer readable form
X		Statement Under 37 CFR 1.821(f)
___		An executed assignment and cover sheet
___		An executed Statement Under 37 CFR 3.73(b)
___		An executed small entity statement
___		Request for Nonpublication and Certification
___		Also enclosed: _____

___ This application is based on prior foreign application(s) No.(s)_____, filed in _____ on _____ _____, respectively, and priority is hereby claimed therefrom.

X This application is based on, and claims the benefit of, U.S. Provisional Application No. 60/245,882, filed November 3, 2000, and entitled PROKINETICIN POLYPEPTIDES, NUCLEIC ACIDS, ANTIBODIES, AND RELATED COMPOSITIONS AND METHODS, and which is incorporated herein by reference.

EXHIBIT E

___ This application is based on, and claims the benefit of, U.S. Provisional Application No. 60/_____ (yet to be assigned), filed _____, which was converted from U.S. Serial No. _____, and entitled _____, and which is incorporated herein by reference.

The filing fee has been calculated as shown below:

	Number Filed		Number Extra		Rate			Fee	
					Small Entity	Other Entity		Small Entity	Other Entity
Total Claims	52-20	=	32	x	$9	$18	=	$	$
Independent Claims	7-3	=	4	x	$42	$84	=	$	$
Multiple Dependent Claims Presented: ___ Yes X No					$140	$280		$	$
					BASIC FEE			$370	$740
					TOTAL FEE			$0.00	$0.00

___ A check in the amount of $_____ to cover the filing fee is enclosed.

X The payment of the filing fee is to be deferred until the Declaration is filed. Do not charge our deposit account.

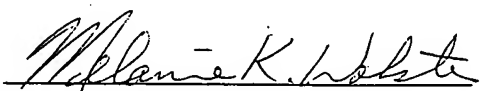
___ The Commissioner is hereby authorized to charge fees under 37 CFR 1.16 and 1.17 which may be required or credit any overpayment to Deposit Account No. _____. A duplicate copy of this sheet is enclosed.

Address all future communications to:

Cathryn Campbell
CAMPBELL & FLORES LLP
4370 La Jolla Village Drive, 7th Floor
San Diego, California 92122
telephone: (858) 535-9001
facsimile: (858) 535-8949
USPTO CUSTOMER NO. 23601

Respectfully submitted,

Date: November 1, 2001



Melanie K. Webster
Registration No. 45,201
CAMPBELL & FLORES LLP
4370 La Jolla Village Dr., 7th Fl.
San Diego, California 92122

PATENT
Our Docket: 66778-126 (P-UC 5016)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Zhou and Ehlert	Group Art Unit: 1646
	Examiner: D. Jiang
	Confirmation No.: 4599
Serial No: 10/016,481	
Filed: November 1, 2001	
For: PROKINETICIN POLYPEPTIDES, RELATED COMPOSITIONS AND METHODS	

CERTIFICATE OF MAILING BY "EXPRESS MAIL"

"EXPRESS MAIL" MAILING LABEL NUMBER: EV 347546429 US

DATE OF DEPOSIT: May 12, 2003

I HEREBY CERTIFY THAT THIS PAPER OR FEE IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE "EXPRESS MAIL POST OFFICE TO ADDRESSEE" SERVICE UNDER 37 C.F.R. 1.10 ON THE DATE INDICATED ABOVE, AND IS ADDRESSED TO: COMMISSIONER FOR PATENTS, P.O. BOX 1450 ALEXANDRIA, VA 22313-1450

Carrie Hines
(TYPED OR PRINTED NAME OF PERSON MAILING PAPER OR FEE)

Carrie Hines
(SIGNATURE OF PERSON MAILING PAPER OR FEE)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO COMMUNICATION

Responsive to the Communication mailed April 16, 2003, entry of the following remarks is respectfully requested.

REMARKS

Claims 1 to 90 are pending. Claims 1 to 52 were filed in the subject application, while claims 53 to 90 were filed in a Preliminary Amendment mailed December 5, 2002.

The Communication mailed April 16, 2003, states that there is no record in USPTO files of the Preliminary Amendment to add claims 53 to 90, filed by Applicants on December 5, 2002.

Applicants submit herewith a copy of the Preliminary Amendment, as filed on December 5, 2002, (Exhibit A) together

with the transmittal filed with the amendment (Exhibit B); the United States Postal Service (USPS) Express Mail Post Office to Addressee receipt stamped by the USPS December 5, 2002, (Exhibit C); and the postcard corresponding to the Preliminary Amendment, stamped by the USPTO as received December 5, 2002, (Exhibit D). As evidenced by these documents, Applicants filed a Preliminary Amendment on December 5, 2002, to introduce new claims 53 to 90 into the subject application, and the Amendment was received in the USPTO.

The Communication mailed April 16, 2003, states that Applicants filed a "communication regarding the issue of sequence compliance" on December 5, 2002. Applicants respectfully point out that this statement is incorrect because no communication regarding the issue of sequence compliance has been filed in the subject application. Rather, Applicants filed a sequence listing together with the subject application on November 1, 2001, as indicated on the transmittal submitted herewith as Exhibit E, and subsequently filed a substitute sequence listing on December 5, 2002.

As indicated in Applicants' response filed February 24, 2003, Applicants traverse the restriction requirement contained in the Office Action mailed on January 29, 2003, on the ground that claims 53 to 90 have not been considered. The exhibits submitted herewith clearly document that new claims 53 to 90 were submitted in the Preliminary Amendment filed December 5, 2002, and that the amendment was received in the USPTO. In view of this, Applicants

respectfully request that the Examiner issue a corrected restriction requirement directed to all claims pending in the application (claims 1 to 90).

CONCLUSION

In light of the remarks herein, Applicants request that the Examiner take into consideration the Preliminary Amendment mailed December 5, 2002, and issue a corrected restriction requirement that encompasses all of pending claims 1 to 90. Should the Examiner have any questions, she is invited to call the undersigned agent or Cathryn Campbell.

Respectfully submitted,

May 12, 2003
Date

Pamela M. Guy
Registration No. 51,228
Telephone No. (858) 535-9001
Facsimile No. (858) 535-8949

MCDERMOTT, WILL & EMERY
4370 La Jolla Village Drive
7th Floor
San Diego, California 92122